


fam-AGGTAGTGCAGAGAGTG-h-GAGCCTCAACATCCTGCTCCCCTCCTACTAC (SEQ ID  
NO:6); (SEQ ID NO: 5)  
ARMS primer R284-97  
TTCGGGGCTCCACACGGCGACTCTCAAC (SEQ ID NO: 8)

### REMARKS

The amendments to the specification are made to correct sequence identifier numbers in the specification. In the marked-up copy of the amendments attached hereto, material to be removed is indicated by [brackets] and material to be added is indicated by redlining. Applicants believe that the amendments introduced herein contain no new matter.

Applicants now request favorable consideration of the application.

RESPECTFULLY SUBMITTED,					
NAME AND REG. NUMBER	Martha Cassidy, Reg. No.44,066				
SIGNATURE				DATE	4/8/02
Address	Rothwell, Figg, Ernst & Manbeck Suite 800, 1425 K Street, N.W.				
City	Washington	State	D.C.	Zip Code	20005
Country	U.S.A.	Telephone	202-783-6040	Fax	202-783-6031

**Attachments:** Marked-Up Copies of Amendments

## Marked-Up Copy

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### Examples

#### **Materials**

Primers/Scorpions primers:

B2098-BRCA Scorpions: FAM-CGCACGATGTAGCACATCAGAAGCGTGCG-MR-HEG-  
TTGGAGATTTTGTCACTTCCACTCTCAAA (SEQ ID NO: 1); (SEQ ID NO: 2)

Underlined regions are the hairpin forming parts, FAM is the fluorescein dye, MR is a non-fluorogenic fluorophore attached to a uracil, HEG is the replication blocking hexethylene glycol monomer. The probe matches the "C-variant" of the BRCA2 polymorphism and mismatches the "A-variant".

R-186-98: untaild equivalent of B2098:TTGGAGATTTTGTCACTTCCACTCTCAAA  
(SEQ ID NO: 2)

R187-98: opposing primer to the R186-98 and the equivalent Scorpions.

Z3702: the probe segment of the Scorpions B2098:

FAM-CGCACGATGTAGCACATCAGAAGCGTGCG-MR (SEQ ID NO: 3)

Template DNA: previously genotyped DNA prepared by proteinase K and phenol/chloroform extraction was used at 50ng per 50µl reaction. Genotypes were typically one homozygous A/A, one homozygous C/C and one heterozygote (A/C).

Buffer (1x): 10 mM Tris-HCl (pH 8.3), 1.2 mM or 3.5 mM MgCl<sub>2</sub>, 50 mM KCl, dNTPs (each at 100 µM), gelatin at 0.01% (w/v).

Enzyme: AmpliTaq Gold (Perkin-Elmer/ABI) was included in the reaction mix at 2units/50µl reaction.

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### Examples 7 and 8

#### **Random coil embodiment and bimolecular embodiment**

Scorpion B2731:

fam-AGGTAGTGCAGAGAGTG-mr-h-GAGCCTCAACATCCTGCTCCCCTCCTACTAC (SEQ ID  
NO: 4); (SEQ ID NO: 5)

Scorpion B4249 (no quencher on same molecule)

fam-AGGTAGTGCAGAGAGTG-h-GAGCCTCAACATCCTGCTCCCCTCCTACTAC (SEQ ID  
NO: 6); (SEQ ID NO: 5)

Quencher oligonucleotide (complement of the tail of B4249):

CACTCTCTGCACTACCT-mr [(SEQ ID NO: 6)] (SEQ ID NO: 7)

ARMS primer R284-97: TTCGGGGCTCCACACGGCGACTCTCAAC [(SEQ ID NO: 7)] (SEQ ID NO: 8)

ARMS primer R283-97: TTCGGGGCTCCACACGGCGACTCTCAAG [(SEQ ID NO: 8)] (SEQ ID NO: 9)

Target is the H63D polymorphism of the human hereditary haemochromatosis gene (H/H), B2731 and B4249 are "common" primers to oppose the ARMS primers R283-97, R283-97. Cycling conditions and reaction composition as above. Primers (including *Scorpion* primers) were used at 500nM concentration.

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**Example 9**

**No quencher embodiment**

Scorpion B4249 (no quencher)

fam-AGGTAGTGCAGAGAGTG-h-GAGCCTCAACATCCTGCTCCCCTCCTACTAC (SEQ ID NO: 6) (SEQ ID NO: 5)

ARMS primer R284-97

TTCGGGGCTCCACACGGCGACTCTCAAC [(SEQ ID NO: 7)] (SEQ ID NO: 8)